

Remarks

Reconsideration is respectfully requested in view of the above amendments and following remarks. Claims 1-6 are pending. Revisions of claim 1 are supported, for instance, on page 5, lines 9-20 and in Figure 1. Revisions of claim 2 are supported, for instance, on page 7, line 28 to page 8 line 14 and in Figures 4A and 4B. Revisions of claim 6 are supported, for instance, on page 8, line 37 to page 9, line 11 and in Figure 6. Applicants respectfully suggest that the prior art issue raised in the current Office Action could have been raised in the first Office Action. Therefore, Applicants submit that it would not be fair to put them to the expense of a refiling to have the amendments considered and request entry of the amendments.

Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Ochi et al. (U.S. Patent No. 5,416,358). Applicants respectfully traverse this rejection, and request reconsideration in view of the following comments.

Claim 1 recites a contactless data carrier that includes an electronic circuit module is contained in a hollow portion of a hollow resin case where a first slit provided in the hollow resin case spatially connects the hollow portion to an outside of the hollow resin case. The present invention provides a data carrier with a formed hollow portion where resin is not injected between the electronic circuit module inside the resin case and an inner wall of the resin case. By forming the hollow portion inside the hollow resin case, an integrated circuit and an antenna coil are prevented from exposure to high temperatures and high pressures seen for example if the case were to be filled with the resin. Thus, the formation of the hollow portion avoids defects such as breakage of an integrated circuit or disconnection of an antenna coil (page 3, lines 8-19).

Further, the hollow portion spatially connects with the outside of the resin case through the first slit. With this structure and configuration, air present in the hollow portion of the resin case that expands or contracts, as a result of variation in surrounding temperature, can flow in and out through the first slit so as not to subject the resin case to deformation.

Ochi et al. is directed to an IC card that includes a frame with a lateral hole for injecting an encapsulating resin. Ochi et al. provides an IC card having a frame 7 that is filled with a resin 10. Excess resin is exhausted via a through-hole 7c. Thus, the IC 3 is embedded in the resin 10 and the through-hole 7c is sealed (col. 8, lines 39-53).

Ochi et al. does not teach or suggest the features as required in claim 1. Particularly, Ochi et al. does not disclose a contactless data carrier formed with a hollow portion in a resin case where the electronic circuit module is contained. Further, the cited reference does not disclose a first slit that spatially connects the hollow portion containing the electronic circuit module to the outside of the resin case. In fact, the IC card of Ochi et al. is illustrated in an intermediate stage before the frame 7 is filled with the resin 10 to obtain the final product having the frame filled to encapsulate the IC 3 (Figure 3). Further, the through-hole 7c is provided for the purpose of exhausting excess resin when the frame is being filled with the resin (col. 8, lines 43-45 and Figure 8) and is sealed after the resin expands. For at least these reasons, Ochi et al. fails to teach or suggest the features of claim 1.

Furthermore, as Ochi et al. does not disclose the features of claim 1, there is no reasonable suggestion that the cited reference would lead to any of the advantages enjoyed by the claimed invention. Ochi et al. neither contemplates nor provides the structure of a contactless data carrier with a resin case defining a hollow portion and communicating slit. Ochi et al. provides an IC card with a frame that is embedded in a resin sealing a through-hole after the resin expands. In contrast, the present invention has a hollow portion in the resin case. This structure provides such advantages as discussed above. Accordingly, it is respectfully submitted that claim 1 and dependent claims therefrom are patentable over Ochi et al. for at least the reasons discussed above.

Regarding claims 2 and 6, Ochi et al. does not teach or suggest shielding plate(s) that partition the hollow portion of the resin case and have further slits. Ochi et al. refers to a component 4 illustrated in Figures 1-3 that is placed between the IC 3 and the through-hole 7c on the frame 7. In fact, the component 4 is defined as functional electronic component(s) mounted on the frame (col. 12, lines 17-23). Thus, the component 4 cannot be considered a shielding plate. Furthermore, as Ochi et al. does not disclose a hollow portion of a resin case, the component 4 cannot be considered a shielding plate partitioning a hollow portion. For at least these reasons, Ochi et al. fails to disclose the features required by claims 2 and 6.

Moreover, the claimed invention provides shielding plates with slits to partition the hollow portion so that a creeping distance can be increased, thereby improving electrostatic withstand voltage while (page 3, lines 24-27). As Ochi et al. does not teach or suggest the

MAR-10-03 02:11PM FROM-Merchant & Gould 1  
Application Serial No. 09/775185  
Examiner: St. Cyr, D.  
Art Unit: 2876

6123329081

T-867 P.006/007 F-114

PATENT  
M&G No. 10873.0657US01

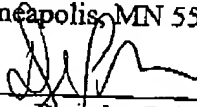
features of claims 2 and 6, the cited reference would not reasonably be expected to lead to such advantages enjoyed by the claimed invention. Accordingly, it is respectfully submitted that claims 2 and 6 are patentable over Ochi et al. for at least these reasons.

With the above amendments and remarks, Applicants believe that the claims pending in this patent application are in a condition for allowance. Favorable consideration is respectfully requested. If any further questions arise, the Examiner is invited to contact Applicants' representative at the number listed below.

Respectfully Submitted,

Merchant & Gould P.C.  
P.O. Box 2903  
Minneapolis, MN 55402-0903

Dated: March 10, 2003

By   
Douglas P. Mueller  
Reg. No. 30,300

Version With Markings Showing Changes Made to Application Serial No. 09/775185

1. (Amended) A contactless data carrier, comprising:  
an electronic circuit module including an antenna coil and an integrated circuit electrically connected to each other; and  
a hollow resin case provided with a first slit and a hollow portion inside,  
wherein the electronic circuit module is contained in the hollow portion of the hollow resin case, and  
the first slit spatially connects [an inside] the hollow portion and an outside of the hollow resin case.
2. (Amended) The contactless data carrier according to claim 1, further comprising a shielding plate, wherein the shielding plate is provided in the hollow portion of the hollow resin case and between the electronic circuit module and the first slit to partition the hollow portion and is provided with a second slit, the hollow portion being on a side of the electronic circuit module with respect to the shielding plate and communicating with the outside of the hollow resin case through the second slit and the first slit.
6. (Amended) The contactless data carrier according to claim 1, wherein a plurality of shielding plates are provided in the hollow portion of the hollow resin case and between the electronic circuit module and the first slit to partition the hollow portion, and each of the plurality of shielding plates is provided with a slit.

FAX RECEIVED

MAR 10 2003

TECHNOLOGY CENTER 2800